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OCTOBER 1955

# FIREMEN

SIXTIETH YEAR • NATIONAL FIRE PROTECTION ASSOCIATION

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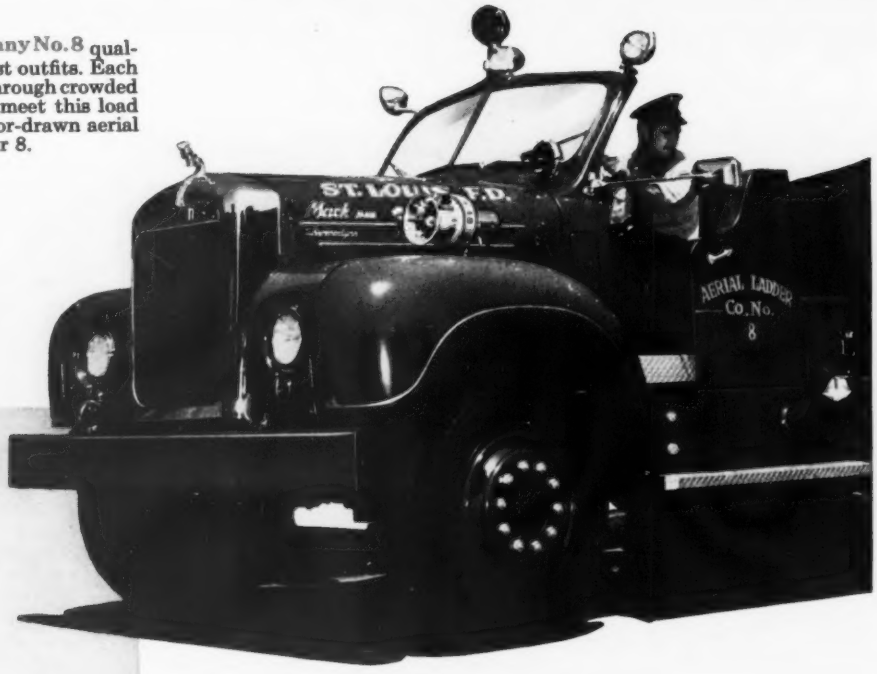
Floods (Page 6) and Aftermath (Page 16)

## Make October 9-15 Your Finest Fire Prevention Week!

St. Louis' Aerial Ladder Company No. 8 qualifies as one of the nation's busiest outfits. Each year, it makes 1100 to 1200 runs through crowded downtown St. Louis. To better meet this load of runs, a new Mack 85-ft. tractor-drawn aerial has been put in service at Ladder 8.



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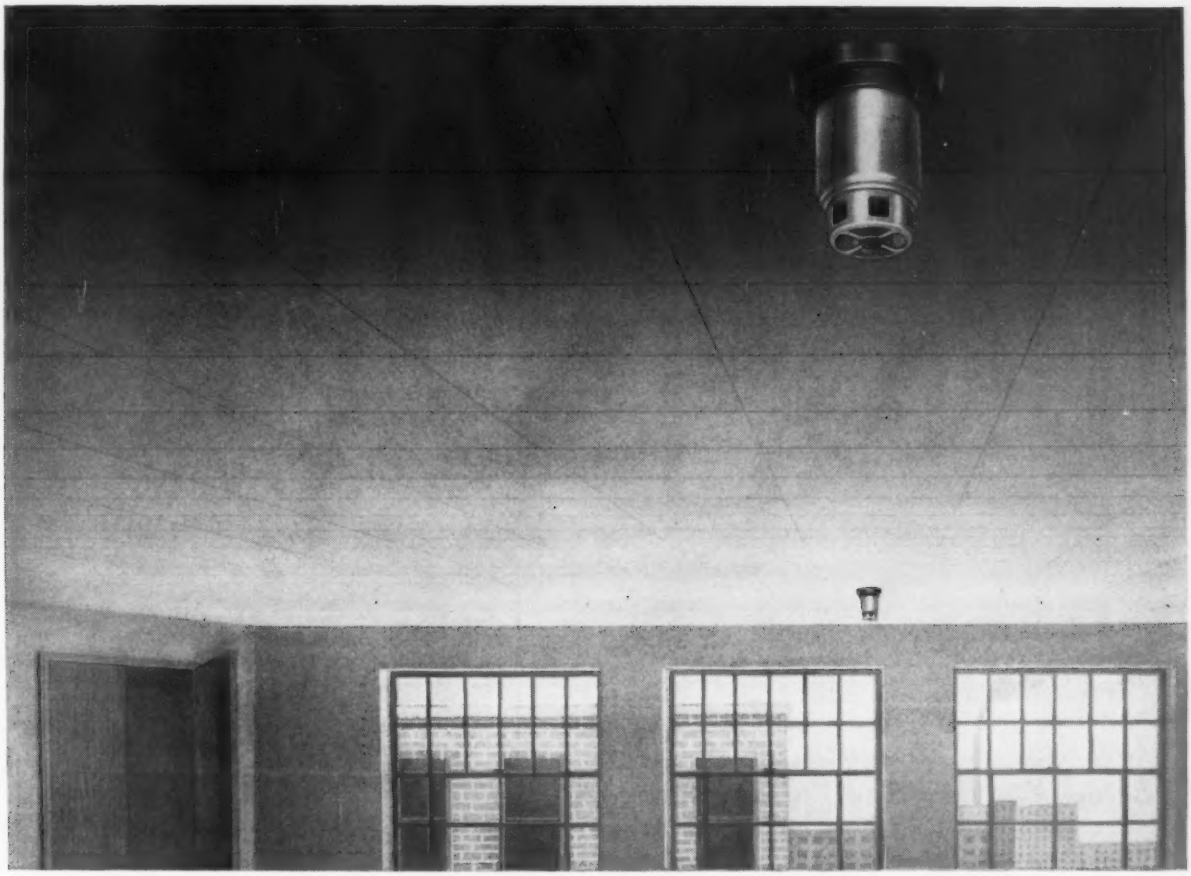

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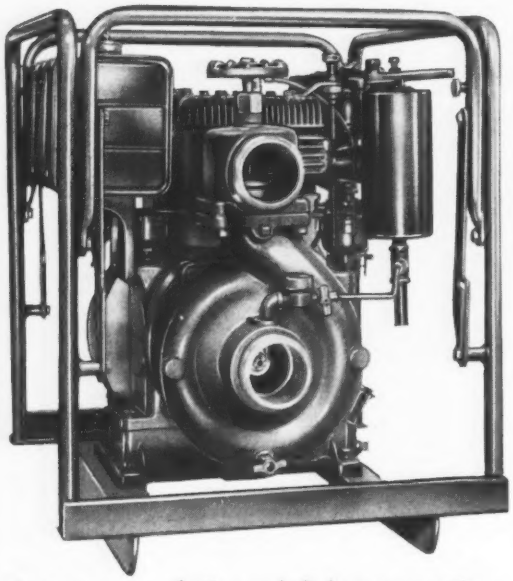

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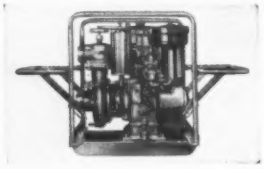

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# Firemen

Volume 22 Number 10

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**On the Bandwagon**

It is well known that "imitation is a form of flattery." Fire fighters should keep this in mind when selecting study courses to improve their positions. With the success of various fire training programs many fire training texts have been carefully developed cooperatively by responsible national and regional fire service organizations, using the best experience and talent available.

Sometimes, however, "quickie" courses and text books are offered to the ambitious fire fighter by individuals who are "after a fast buck," and the publications frequently contain inaccurate or misleading information, at a price out of line with the instruction actually rendered.

For the guidance of fire fighters we list the following questions which should be considered when one is measuring the merit of fire training courses and instructional materials.

1. How will this information benefit me in my job? Will I get my money's worth in correct, authoritative information?

2. Who are the persons or organizations behind this proffered course or material? Do they have professional standing and experience to instruct with authority on the subjects involved? Are they known and recommended in publications of leading fire protection organizations such as the National Fire Protection Association, the International Association of Fire Chiefs, the National Board of Fire Underwriters, and the International Association of Fire Fighters?

3. Will this information or material be recognized or accepted as authoritative by the civil service organization and fire department officials responsible for selection and advancement of candidates for promotion within my fire department?

4. Does the course or material provide a student academic credit, such as a certificate or degree which will be recognized by fire protection authorities?

To help fire fighters find reliable information, the NFPA Committee on Firemen's Training has issued the "Reference List for Firemen's Training," listing training texts that have been reviewed by the committee and considered to be authoritative and helpful. The IAFC and the NFPA are cooperating with other interested agencies in developing recognized college level courses for the fire services to supplement local fire department training programs. Such courses include those in operation at the University of Southern California at Los Angeles; Oklahoma A & M College; Queens College in New York City; Boston University; Contra Costa Junior College; the University of Maryland, and various official state training programs, such as those under the sponsorship of state education departments, or state colleges or universities.

Systematic study in subjects relating to fire service work should be beneficial to the fire fighter and fire officer. We suggest that such an individual obtain satisfactory answers to the above questions and make certain that his chief and training officer considers the course a worthwhile investment.

**Flood and Fire**

Massachusetts, Connecticut, Rhode Island and five other northeast United States suffered devastating floods during August. On the 18th and 19th of that month rain fell steadily, with accumulations in various localities amounting to from 3 to more than 12 inches. National attention was focussed on the area as rivers rose to overflowing, dams burst, and many communities experienced deep, swift-moving flood waters in their most populated districts.

Fire departments and other public agencies creditably performed their duties which included combat of major fires and pumping and rescue operations. A brief summary of the action during this disaster is contained on pages 6 and 7 of this issue. The exceptional work performed by fire fighters in meeting this disaster may never be fairly described, but it is a certainty that every fire department member who participated is better prepared to meet future emergencies and large-scale combined operations.

An important aftermath of the flood is illustrated by the story on page 16 of this issue, which describes the 7 million dollar fire which occurred in Manville, Rhode Island. One view of this fire is shown on this month's cover. (*Woonsocket Call Photo.*)

# GETTING USED TO DISASTER!

Typical of rescue work was this "human chain" on Social Street, Woonsocket, Rhode Island. (*Woonsocket Call Photo.*)

ON AUGUST 18 and 19 rain fell on eight of the northeastern United States at an estimated average rate of one-half billion gallons per hour. When the rain stopped more than 260 persons were dead or missing, thousands had lost their homes and jobs, and property damage was in the vicinity of 1.6 billion dollars.

For fire departments throughout the area, the floods which followed meant days of tedious work, many complex problems of communication, mutual aid, rescue, and pumping operations — and in Connecticut — two major fires, one involving floating drums of magnesium. For the New England States, this was the fourth "disaster situation" in three years, including a tornado and two hurricanes.

As this summary is being prepared, detailed information is not available to describe fairly the commendable work of hundreds of fire departments and other public agencies. The flood situation called for unity of command and effort and the fire service was fortunate to have disciplined personnel and radio and pumping equipment to contribute to the job of recovery.

In many communities roads, water supply systems, communications and fire alarm systems were destroyed by the flood waters. Dozens of towns in central Massachusetts and central Connecticut were inundated. Rhode Island, part of New York, New Jersey, Pennsylvania, Virginia and Maryland also suffered major damage.

In general, New England fire department operations were devoted to major fires, rescue and prolonged use of pumping, lighting and power equipment. Apparatus was often hampered in movement because of blocked or washed-out roads. Much equipment and clothing was destroyed and fire officers were faced with many problems and decisions concerning the practical location of personnel and equipment. In most areas Civil Defense plans were put into operation.

In Putnam, Connecticut, a 5-story brick warehouse containing magnesium became involved by fire. Reports stated that nearly 200 tons of the metal were in the building. Chief George Harper was in command of the fire fighting but because of the heavy rains and high rushing water little could be done to confine the fire. Drums of burning magnesium floated and exploded on waters throughout the business district of the city and fire spread through four houses and another storage plant before it was brought under control.

In addition to the fire at Putnam, a severe fire occurred in a 1- to 5-story sprinklered brick cloth processing warehouse in Mechanicsville on August 20. It started in the second floor area of the main building but because of highway conditions, only one volunteer fire company could reach the scene, and apparatus could not get closer than 200 ft. from the buildings. Flood

(*Below*) Fire fighters and State lifeguards rescue residents of a tenement district in Woonsocket. When a dam broke during the flood the water level rose to the top of the Sauvageau sign on this building. (*Woonsocket Call Photo.*)

View of Metal Sellers warehouse where magnesium fires started. The overflowing Quinebaug and French Rivers joined forces near Putnam causing washouts as shown here, and preventing fire fighters from making close approach. One volunteer ladder company from Danielson rescued more than 50 people in Putnam. (*Wide World Photo.*)

waters had knocked out the electrical power through the entire plant, both fire pumps were submerged and the closed control valve of the yard hydrant system was submerged and could not be reached. The 165,000-gallon reservoir on the plant property was half empty and water supply to the sprinkler system was limited. Three volunteer firemen were landed on the roof by a helicopter. They attempted to reach fire extinguishers on the second floor but dense smoke forced them to withdraw. Sprinklers confined the fire until flames broke out violently in the second floor and fire spread to all plant areas except two detached buildings. Loss was estimated at more than 4 million dollars.

Subsequent issues of FIREMEN magazine will carry more detailed reports on operations in individual communities.

View of a Woonsocket street on the first night of the storm before flood waters reached their crest. (*Woonsocket Call Photo.*)

In Mechanicsville this cloth processing plant became fully involved by fire as flood waters prevented fire apparatus from getting closer than 200 ft. to any building. (*Associated Press Photo.*)

In Brooklyn, Connecticut, for example, the Mortlake Volunteer Fire Company, under Chief A. Morrison Ennis, faced some major fire fighting and rescue problems. Brooklyn is just south of the border of central Massachusetts where flood waters caused major destruction. All except one bridge on the Quinebaug River from the Massachusetts line to Norwich, Connecticut, a distance of fifty miles, were washed out. East-west traffic on three U. S. routes was funneled through Brooklyn causing bumper-to-bumper traffic for eight miles and hampering fire department operations.

The Mortlake Fire Company responded to both of these major fires during the two days, combining operations with radio-equipped fire companies of three counties. Chief Ennis reports that helicopters were of great assistance in flying in portable pumps, hose and other equipment and also in rescue operations, particularly in areas which were impassable to apparatus. During the Mechanicsville fire, on August 21, fire fighters were able to control a large quonset-type warehouse fire almost entirely with portable pumps spotted strategically by helicopter or manpower.

In Boston, Massachusetts, the fire department, working with Civil Defense and other agencies, participated in many pumping operations. In addition to regular fire apparatus, seventeen 750 gpm Civil Defense pumpers and fifty-six portable skid mounted pumps were put to use. Fire department pumpers were sent to seven hospitals, ten schools, six synagogues and churches, ten industrial properties, and many private homes.

Another flood aspect is indicated in a report of the Massachusetts Civil Defense agency which supplied four million pounds of dry ice, 33,600 pounds of chloride of lime, 18,000 sandbags, 150 house trailers and more than 61,000 typhoid inoculations.

For fire departments the floods meant another disaster which demanded the best of leadership and operation. Each of these major emergencies has contributed to the betterment of inter-department, inter-county and inter-state operations. Mobile command posts and radio communications are gaining in importance as the role of the fire service becomes more flexible. If the floods brought any benefit, it was that many fire officers developed greater appreciation of the problems of distribution of personnel and portable equipment and thus will be better prepared for fires, windstorms and floods which may come in the future.

*(Left)* Hasty emergency diking was necessary to control the spread of this intense fire at the Whiting plant. Round-the-clock fire fighting operations lasted for eight days before the last flames were extinguished. *(Wide World Photo.)*

# this year's BIGGEST INDUSTRIAL FIRE

**Extracted from a preliminary report (see October, 1955, NFPA Quarterly) based on a personal investigation by Miles E. Woodworth, NFPA Flammable Liquids Engineer. If further details become available following extensive investigations being conducted by the Standard Oil Company (Indiana) which alter or significantly add to this report they will be published by NFPA.**

SHORTLY after 6:00 A.M., August 27, a violent explosion in a hydroformer in the refinery of Standard Oil Company (Indiana), in Whiting, led to damage estimated between 10 and 50 million dollars. A three-year old child was killed by a flying piece of steel which penetrated the roof of his home, and a plant employee died of a heart attack shortly after reporting for fire duty. More detailed reports of this major fire incident are scheduled to be published in a forthcoming issue of the NFPA *Quarterly*.

The hydroformer was in a steel tower nearly 265 feet high, which was completely shattered by the explosion, with huge fragments flying several hundred feet. (See opposite page.) Two houses were completely destroyed, 80 received major damage and 100 were damaged to a lesser extent. Storage tanks near the tower were punctured by the fragments, permitting fuel to flow freely. All grades of flammable liquids, from crude oil and aviation gasoline, were stored in the 80 tanks involved in the fire, of which 70 were destroyed or damaged. The majority of the tanks were over 35 years old and many were inadequately diked and spaced according to present NFPA standards. It was estimated that one million barrels of flammable liquids burned.

### Fire Fighting Operations

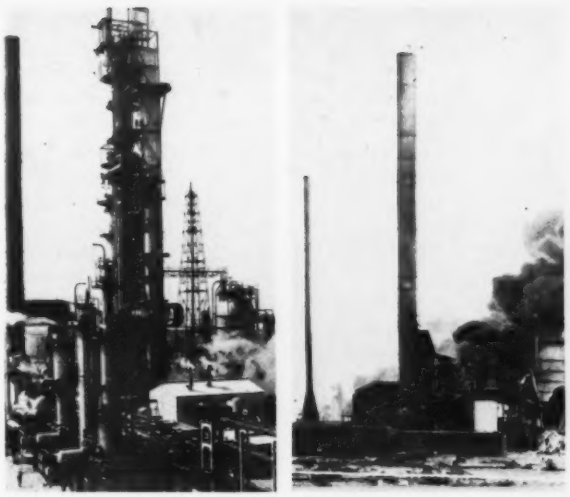
This refinery is the oldest in the midwest and fourth largest in the United States. It has been recognized as having one of the best management fire prevention committees of any plant in the country, as well as having a thoroughly planned emergency organization.

The fire prevention committee is composed of department heads, division superintendents, the general foreman, the plant fire marshal and the plant safety man who serves as secretary. There is also a revolving membership of executive personnel of the plant.

The plant fire marshal was in complete command of the fire. Since fire department equipment is radio-equipped, walkie-talkies and the two-way radio system operated from the fire marshal's office, provided good communication with all fire areas.

For fire attack the plant area was divided into five separate sections with competent men in charge of each section. A special signal on the plant fire whistle immediately after the explosion called back off-duty personnel and nearly 3,500 plant employees were available for fire duty.

Because ground and tank fires were spreading over a large area, there was no possibility of prompt extinguishment and fire attack consisted of encirclement to prevent involvement of the offices of the refinery and adjacent property. Hose lines were quickly put into operation to direct water on exposed tanks and equipment. Approximately 18,000 to 20,000 gpm of water was put to use, supplied by large above-ground water tanks and fire pumps strategically located throughout the refinery. However, as the fire developed in intensity, it became evident that diking was necessary



"Before and after" photos of the 265-ft. high hydroformer illustrate the power of the blast which sent shattered heavy steel fragments hundreds of feet. (*Wide World Photo.*)

Railroad cars at a siding bordering the plant area buckled from the intense radiant heat, but fire fighters managed to protect many tanks, buildings and other exposures by forming water curtains with hose streams. (*Wide World Photo.*)

and dozens of dump trucks were rushed to the site for this purpose.

Although several tanks apparently ruptured in the fire, the most trouble was caused by a boilover in a crude oil tank. (See page 27.) This swept flaming oil across the adjacent street (which is U. S. Route 20, the main east-west highway in this area).

Diking and fire fighting by public fire departments on this street prevented spread of fire into the homes and business buildings opposite the refinery. Burning oil flowed down the intervening railroad tracks and destroyed a long line of tank cars and box cars, as well as part of the tank car loading rack.

Shortly after the explosion in the tower, the Whiting plant fire department extinguished the only fire which occurred outside the plant area. This was in a combination store and dwelling which was completely destroyed when a large piece of the tower struck the building.

While the refinery is located in the City of Whiting, part of it extends into the adjoining town of East Chicago. As the fire spread it became apparent to plant personnel that outside help was needed. Twenty-seven pieces of public fire department apparatus and 289 firemen responded from various communities. The Whiting fire chief and an assistant chief of the East Chicago Fire Department assumed command, stationing the apparatus along the main streets adjoining the tank farm. Hose streams were directed on tanks not yet exposed to the fire and cooling water curtains were used in other areas to prevent buildings from intense radiant heat. Originally fire companies were spotted one to a hydrant but when the boilover occurred the men were forced to retreat. Thirty-one fire fighters suffered first, second and third degree burns when the oil erupted, and most of the firemen thought a tank had exploded. Of interest is the fact that the firemen who were burned had removed their bunker coats because the temperature of the day was 95 degrees F. However, other firemen who had not removed their fire fighting coats were not burned.

When the boilover occurred and fire involved the street area, hasty withdrawal of personnel and fire apparatus was accomplished successfully under extremely difficult circumstances, including movement of charged hose lines.

Considerable quantities of flammable liquids settled into the sewer systems and gave concern to the fire officials in Whiting. The oil flowed through the sewer system to a ship canal leading from Lake Michigan to the industrial area. A fireboat from the City of Chicago was called to disperse these flammable liquids. The last fire in the plant area was not extinguished until eight days after the initial explosion. It was estimated that the entire refinery would be shut down for two weeks and that a number of months would pass before full production would resume.

Remains of dwelling after steel from the hydroformer smashed through roof. Pre-planning for emergency led to good control of the fire fighting organization which participated in the fire attack. (*Wide World Photo.*)

# Tell It to the Papers!

*Assistant Chief W. R. Kuehn of the Yakima, Washington, Fire Department has a name which is frequently misspelled in newspapers, and mispronounced on radio. Because of this and other errors which sometimes occur in news stories, Inspector "Dick" Landis, former newspaper reporter and now in Yakima's Fire Prevention Bureau, prepared a useful guide for reporters and editors. The guide is digested on these pages and many other fire departments may want to prepare similar publications for newspapers and radio stations in their communities. The Yakima publication is a 14-page, 8½ by 11 in. mimeographed booklet. In addition to the information shown here, it also contains a glossary of descriptive terms used frequently in the fire service, and a complete roster of names of Department members. The roster is revised every time a change in personnel is made.*

THE fire service is a technical profession, requiring both skill and understanding for its successful operation. Our fire department is a very important function of city government, for its members are responsible for the safety and protection of life and property within the city.

We further feel that we are responsible for keeping the public informed of our progress and our problems; to tell each taxpayer what share he has in making this community safer for his family and for his neighbors.

At the present time the Yakima Fire Department employs 80 men. Of this number four are assigned to the Bureau of Fire Prevention, seven are with the Alarm Division, one is detailed as Department Secretary, and another, the Chief Mechanic, is in charge of the Department Shop.

Firemen work a 56-hour week on what is known as the three-platoon system. That means that a man on shift today comes to work at 8:00 A.M. and remains on duty until 8:00 A.M. the next morning. He then has a period of 48 hours when he is off duty but subject to recall in case of a multiple or general alarm fire. In order that an adequate number of men will be available for recall only a certain percentage of the firefighters are allowed to sign out of town at any given time.

Now, concerning off-shift recalls, remember that a second alarm calls in only one other shift of firemen. A general alarm fire recalls every man available. In case the manpower of the Yakima department is unable to cope with a situation, aid can be called from nearby communities under what is known as a mutual aid agreement.

Fostered by the Central Washington Fireman's Association, the mutual aid plan for this area includes departments from Roslyn to Richland, and provides for an interlocking system of moveups and coverages for the entire Central Washington area.

The Yakima Fire Department maintains these stations and facilities: Number One Station — Third Street and Walnut — 2 engine companies, a truck company and one pumper in reserve. Number Two Station — Seventh Avenue and Chestnut — a pumper company, a quadruple combination company, with a pumper in reserve. Number Three Station — Thirty-fifth Avenue and Summitview — One pumper company with a pumper in reserve.

The Department's Administration Building, housing the offices of the Chief, the Bureau of Fire Prevention and the maintenance shops are located in Number One Station. The Central Alarm Office is in a building adjacent to Number Two Station, where the drill tower and grounds are also located.

When we speak of a fire company we refer to the firefighters who man one piece of apparatus on any given shift. Thus Engine One is manned by a company of four men — an officer, a driver, and two hosemen.

Apparatus of the department includes:

Engine 1 — 1949 Seagrave — Class A, 1,000 gpm pumper; Engine 2 — 1932 Seagrave — Class B, 600 gpm pumper; Engine 3 — 1925 Stutz — Class B, 1,000 gpm pumper; Engine 4 — 1919 Seagrave — Class B, 1,000 gpm pumper; Engine 5 — 1942 Ford, Class B, 500 gpm pumper; Engine 6 — 1923 American-LaFrance — Class B, 750 gpm pumper; and Engine 7 — a 1953 International — Class A, 750 gpm pumper with foam and "wet water" proportioner; also a "quad" — which is a 1938 Pirsch quadruple combination carrying hose, booster tank and reels, long ground ladders and mounting a Class A, 750 gpm pump. This apparatus fills the requirements of both a pumper and what is known as a city service ladder truck. (A city service truck carries only ladders and occasionally a booster hookup.) Also in this station is a 1947 Seagrave — 100-foot steel aerial ladder truck, which carries long ground extension ladders, roof and scaling ladders, as well as special salvage and rescue gear.

The department is served by a five-trunk telephone system. Two of these trunks are for fire or emergency calls only. Calls received over these lines are tape recorded as a precautionary measure and for further reference.

Two other trunks, 6143 and 6144, are business phones. Daily between 9:00 A.M. and 5:00 P.M. calls on these lines are answered in the Administration building. After 5:00 P.M. and before the department office opens each morning they are answered at the watch desk in Number One Station. These are the phones you may use when covering department activities. If you should fail to get an answer on these lines within a reasonable time you may call 33124, which will connect you with Central Alarm Headquarters.

SINCE firemen are servants of the taxpaying public, we are interested in presenting a factual and accurate picture of our operations to that public. This does not mean that we want news slanted or colored to make a poor situation appear good. We are aware that mistakes, like fires, are something that we will have to contend with for some time to come. We feel that it is better to give a factual account of a mistake, and perhaps explain or qualify it, than to suppress such a news item.

On the other hand, when we do a good job we like the public to know about it.

When reporting fires try to avoid the old chestnuts such as "poured water." To be sure, large quantities of water are required for some fires, but to say that firemen "poured water" on a residential fire can conjure up some pretty awful images for the public. The term "applied water" gives a better indication of fire stream use. Straight streams are used where penetration through intense heat or debris is needed. The average residential fire is fought with fog streams. "Quenching" fog in firefighting is now almost universal, so a reporter on the scene has a choice, as has the fireman, of using "fog nozzles" or "fog streams" or "straight streams."

The average fire in a residence can be brought under control in five minutes after firemen arrive. Overhauling and salvage may take another twenty minutes or longer. In overhauling, the contents are checked for smoldering fires and debris is removed from the building along with any excess water.

In describing ventilation operations it is better to say "opened up" a structure rather than "chopped holes in the roof." Ventilation is a real money and life saver, and the fireman only opens up a structure with an axe in order to vent the smoke and heat, or to let the hosemen work on the seat of the fire. Also, it is better to have firemen "force their way" into a building, rather than "chop the door down." An experienced fireman can open an ordinary door with an axe and never leave a mark.

"Broke out windows" is another problem phrase. Often windows are painted shut or swollen by heat and cannot be opened any other way, or, heat breaks the windows before firemen, or reporters, arrive. The simple word "ventilated" will cover the matter more accurately. We want people to forget the ancient belief that what the fireman can't wash off the lot he'll chop down.

Only apparatus mounting ladders, such as the aerial ladder truck or the city service truck, can actually be called trucks. Pumpers are "engines." To the fireman all apparatus are rigs, a holdover from the days when rigs were any horsedrawn vehicles. Apparatus is "dispatched" to a fire or "makes a run." The "run" again is a holdover from the days when apparatus was drawn behind the men who actually ran to the fire.

"Flash fire" often appears in copy. To the fireman a flash fire only results from a vapor explosion. What people generally call a flash fire is simply a fire which rapidly extends through combustible interiors and contents. In some cases a house may seem literally to explode. This sometimes occurs when the interior has been heated to its ignition point but oxygen is lacking to bring the fire into full blossom. A heat-broken window may furnish the oxygen and then the whole interior ignites at once, giving rise to "flash fire."

Studies by experts reveal that fire victims usually suffocate rather than burn to death. In the interest of accuracy, make certain of the cause of death. But, regardless of how the victim dies, whether by suffocation or burns, he is listed as a fire victim. All persons, injured or burned in fires are listed as fire casualties.

It has become a practice of many writers to turn away from the old description of "overcome by smoke" and use instead the term "smoke poisoning." Actually the latter is more correct, for it is generally a combination of carbon monoxide and other gaseous materials that put the fireman out of action. It is the general practise of firemen now to put on smoke masks (not gas masks) before entering a building heavily charged with smoke. The short time it takes to put the mask in action is amply repaid in the better job a fireman can do in a bad atmosphere. The days of the old smoke eater are numbered. Constant exposure to such risks shorten the fireman's life and limit his usefulness at a fire.

In describing fire losses remember that in almost every fire you will have smoke and water damage. Fire in some types of occupancies will lead to a far greater smoke loss than fire loss, or a greater water loss proportionally than the fire damage.

In connection with the release of fire loss figures (now we refer to fire loss as the overall or total loss), the department generally uses the figure available from the insurance company, if the occupancy is insured. Please do not ask firemen for estimate of loss, at least for publication. You may certainly make every attempt to get the basic details as to what rooms are damaged and the like, but the loss figures, if given by the fire department, have to come from the chief officer in charge at the fire or from one who is given the express responsibility of making known these figures.

We feel it is better and often more accurate to describe losses rather than tabulate them. For instance, the use of "heavy, slight, extensive, or considerable" will tell the story to the reader. When the fire is big enough to warrant a follow-up story, the tabulation may come in the second story.

The department and its officials realize your rights as a reporter and in all cases wherever possible you will be given all the information available on suspicious or incendiary fires. There is no need to warn against a premature release of such information. The arsonist or firebug is a difficult criminal to apprehend. You will be advised of any progress on such cases as long as news we request to be withheld is withheld.

Try to avoid "standups" in fire department pictures. It is better to show the firemen planning or doing something. This is particularly true of pictures publicizing a forthcoming event, such as pre-fire planning or home inspections. It helps when firemen are pictured performing a duty, to plant the proper impression that what the fireman does requires planning, preparation and skill.

We often will have to ask your advice since we are not reporters. You may also ask ours, and we hope you will. We have a great many books on all phases of fire prevention and fire fighting and you are welcome to use them for reference at any time.

(*Left*) Named the "James E. Granger," this communications unit of the Cleveland, Ohio, Fire Department responds to major disasters and to 3rd or greater fire alarms. Shown with the vehicle are (*left to right*) Lieutenant Leroy Begin, Secretary to Chief Cain; Battalion Chief Charles Harris, Superintendent of Fire Signal System; 2nd Assistant Chief Ferdinand Boehmer; 1st Assistant Chief James Nimmo; and Chief Elmer M. Cain.

(*Below*) Interior of vehicle showing Hallicrafter receiver and other operating equipment.

# *SOME MOBILE COMMAND CENTERS*

THE vital importance of communications during large scale fire emergencies and other disasters, is highlighted by the increasing use of mobile control cars, or communication centers. Fire departments in a number of major municipalities have acquired, or are purchasing, such "command cars" through which radio and telephone communications can be channeled to and from the chief in command at the fire ground. One of these mobile command centers was described in the April issue of FIREMEN magazine which detailed fireground organization and operations of the Memphis, Tennessee, fire department.

Portable radios, telephones and public address systems are of primary importance to efficient communication to and from such vehicles. Practical operating procedures also must be established between fire alarm headquarters and the command car, as well as with police, civil defense and other muni-

(*Above*) Newark, New Jersey, is using one of these command units, built by Instruments for Industry, Inc., Mineola, New York. Interior of vehicle is shown at right. Note battery of portable telephones above radio panel board, and number of lights. Adequate illumination and ventilation of interior of these mobile units is of prime importance.

cipal agencies. When adequately staffed and equipped, a mobile communication center provides an excellent focal point for receiving and sending commands and information necessary for control of disaster situations.

On June 1, 1953, Chief Elmer M. Cain's Cleveland, Ohio, Fire Department activated its communication unit which, according to Battalion Chief Emmet H. Byrne of the Bureau of Fire Education, has proved a valuable addition to the department. One week after the unit was activated, the city experienced a devastating tornado, during which the command center proved its worth. Since that time the vehicle has responded to all 3rd or greater multiple alarm fires and other extreme emergencies.

This command vehicle has a reinforced bus-type body with the operating room located in the main section of the enclosure. A generator is located in a sound-proof room at the rear of the truck. Mounted on the roof is a "marine-type speaker," operated by pilothouse controls and powered by a 125 watt amplifier. Also on the roof is a 1 million candle power searchlight, used primarily for the floodlighting of buildings during fires.

Radio equipment consists of four transmitters and eight receivers all crystal controlled, with one receiver tuned manually. Since each fire station has a radio receiver tuned to the fire frequency, immediate contact may be established with all stations for dispatching fire equipment. Radio contact also is continually maintained with the police department, and the communication receiver may be used for monitoring Coast Guard, airport, county wide police network, army and commercial broadcast stations, amateur radio stations, the telephone company and television stations.

Three portable radio "pack" sets are carried on the unit to permit quick contact with various officers on the fireground. Two telephones mounted in the operating room have 400 ft. of cable for connection to telephone terminal boxes or to overhead lines. These may be used in some emergencies to receive alarms in the event that the Fire Alarm Office is put out of service in a disaster.

This control car is used by Caterpillar Tractor Company, Peoria, Illinois, as a mobile command center during large scale emergency operations. Interior of car, shown at right, features telephones, radio, and detailed maps of plant buildings and area. While a resuscitator is carried in the car, it is not intended as a rescue vehicle.

Power take-off fittings, installed at the rear of the vehicle, include 200 ft. of cable power for emergency use.

Two mobile centers, recently activated by the Chicago Civil Defense Corps, are also available for major fires. Each of these coaches is divided into three compartments, including an operations room, an apparatus room and a generator section.

Each vehicle carries 11 antennae — two of which can be extended 40 ft. above the ground, 12 radio transmitter-receivers, a teleprinter, portable radio-telephones, a public address system, regular telephones, beacon lights, a siren and a gasoline-driven electrical power plant. Each bus has a forced ventilation system and is powered by a 200 h.p. engine supplied by a 250 gallon gasoline tank.

Radios are tuned to 18 fire department, police and amateur radio frequencies on the 2, 6 and 10 meter bands. Recessed telephones fitted into the outside of the vehicle are tied in with six telephone circuits.

A similar mobile unit has been built by Instruments for Industry, Inc., Mineola, New York, as a Civil Defense vehicle for Newark, New Jersey. Radio equipment in this vehicle operates on frequencies used by fire departments, police, taxicab companies, amateur radio operators and other services. The van-type truck features a rack of two-way handy-talkies, as well as fixed radio equipment. Power is supplied by a 16 kilowatt gasoline-driven generator, towed on a trailer. A collapsible mast is provided for raising the high frequency antennae to a height of 50 ft.

Command cars are also useful for industrial plant fire brigade operations. As reported at the recent

1955 Fire Department Instructors' Conference in Memphis, Tenn., by J. Ward Bush, Chief of the Plant Protection Division, the Caterpillar Tractor Company in Peoria, Illinois, uses a control car. The present disaster program of that company features a central station as headquarters of the Plant Protection Division. From this center, decisions of the staff are forwarded by telephone, radio, or messenger, to the mobile headquarters at the emergency site.

This secondary headquarters is a Chevrolet panel truck equipped with a portable generator and floodlights, a portable radio, power megaphone, public address system, telephones (which can be connected to the plant system or to the Illinois Bell System) and an antenna extension, which can increase radio transmitting range by nearly 50 per cent.

Other equipment carried on the vehicle includes a resuscitator, hand lanterns, flares, 100 ft. of ½ in. manila rope, fire axe and 500 ft. of field telephone wire. A special case in the driver's compartment contains maps and aerial photographs of the plant area, detailed plans of the buildings and construction plans showing protective water supply mains and utility lines and highlighted automatic and manual shut-off valves, meters and substations.

Other fire departments, both municipal and industrial, are meeting the trend towards quicker and more efficient communications on the fireground. Mobile command centers also expedite large-scale mutual aid assignments, as required by the recent floods in northeastern states. They provide a new range of operational efficiency and as manufacturers develop vehicles of greater adequacy and efficiency, readers of FIREMEN will be informed of the importance of such features to fire department operation.

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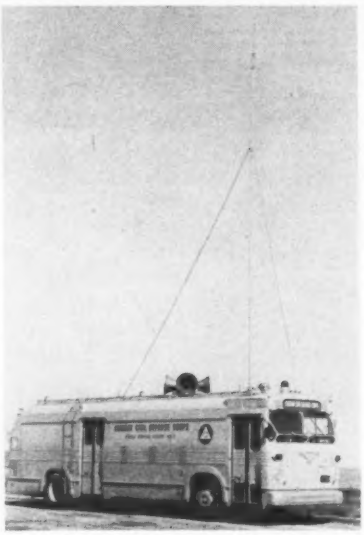

Chicago, Illinois, recently activated two of these bus-type command centers, each having 11 antennae, two of which can be elevated 40 feet as shown at left. Recessed telephones are fitted into the outside of the bus and may be tied in with main telephone circuits. A portion of the vehicle's operations room is shown above.

## Fire Training Instructor Wanted

ONE of the major universities in midwestern United States is seeking a fire training instructor for its university program. Requirements for this position include a college degree, and fire control, fire extinguishment and fire prevention experience. The age level is not fixed but an applicant from 35 to 45 years old would be most acceptable. This will be a permanent position for the instructor, who will participate in an eleventh-month program with one month's vacation. Academic rank will be granted for a qualified person and a pension plan, group hospitalization, and an insurance plan is also available. Starting salary is in the range of $6,000 and the position is available immediately.

Fire officers and other persons who can meet these requirements should address a letter describing their qualifications to NFPA FIREMEN Magazine, Box 105, 60 Batterymarch Street, Boston 10, Massachusetts. Such letters will be forwarded promptly to the university for interview arrangements.

## "Radiation Hazards in Fire Fighting"

THE United States Atomic Energy Commission, Washington, D. C., has just published Safety & Fire Protection Technical Bulletin No. 4, titled "Radiation Hazards in Fire Fighting." This is a well illustrated, 34-page, 8½ x 11 inch bulletin which details some of the risks and hazards fire fighters may encounter because of radioactive materials.

The booklet describes in understandable form some of the fundamental principles of radiation and also suggests pre-fire planning and fire fighting operations in hazardous areas. Other chapters of the publication also cover radiation detection instruments, internal radiation machinery which produces radiation of different types isotopes; isotope laboratories and shipment of isotope materials, transportation fires, and flammable solvents.

Copies may be obtained for 35 cents each from the Superintendent of Documents, Washington 25, D. C.

## National Fire Codes

NFPA member fire departments can now purchase the 1955 editions of the National Fire Codes for $6.00 each, with 25 percent discount granted if full payment accompanies the purchase order. The 6-volume set contains all of the NFPA technical standards, revised according to action taken during the past Annual Meeting. Titles of the cloth bound books are: Volume I — Flammable Liquids and Gases; Volume II — Combustible Solids, Dusts Chemicals and Explosives; Volume III — Building Construction and Equipment; Volume IV — Extinguishing Equipment; Volume V — Electrical; and Volume VI — Transportation.

# COMBINING POLICE and FIRE WORK

**In this review of a recent publication, NFPA Chief Engineer Horatio Bond points out some factors which should be considered when a municipality contemplates combining police and fire departments.**

PUBLIC Administration Service, 1313 East 60th St., Chicago 37, Ill., has published "Police and Fire Integration in the Small City," by Charles S. James, a paper-covered book of 92 pages, approximately 7¾ by 10½ inches, $2.00 per copy. Members who wish it should order from the above address.

Public Administration Service is a consulting and publishing organization, one of whose functions has been to make administrative surveys of municipal governments. In the course of this work, the idea occurred to some of its staff members that if police and fire departments could be combined, the municipality might be able to save some money, hence it was advocated that small cities consider combining police and fire departments.

The idea received no cordial endorsement from either police or fire department experts so Public Administration Service assigned the writing of a book on the subject to an author who makes no pretense to be an expert in either field. Mr. James writes well and the book is illustrated with pictures that are so good that one could only wish that they were being offered in a more worthy cause.

The author sticks tenaciously to proving that police and fire departments should be combined, regardless of facts. He says, for example, that the only alternative to volunteer firemen in small cities is the employment of numerous full-time men. This is typical of numerous generalities on which the author builds up his case.

There are at least two obvious alternatives. One of these is the fire department (or, for that matter, police department) operating in a district combined from a number of municipalities or covering a population area or geographical territory large enough to support a fire department of its own. An example would be a fire department serving a number of cities in a metropolitan area, or a county-wide fire department. There are numerous examples of these. The other alternative is that a policeman can serve, just as any other public employee or citizen, as a member of a local volunteer or part-paid fire department.

Fire and police departments have been traditionally separated. This is not a mere matter of historical fact but there are good practical reasons for it. With a combined police and fire department it is, for example, advocated that every home be card-cataloged in a police file for fire hazard violations. This is quite a different approach from that made by fire departments to home inspections where the whole operation is voluntary so far as the citizen is concerned. The advocated scheme would fit the pattern of a state resigned to socialism or communism, that is a police state, but it seems a little silly for a community of less than 10,000 population in present day America.

The book is given substance by the inclusion of helpful suggestions for procedures and reports, many of which are quite sound, being based on regular police and fire department procedures and report forms. It does not, however, really make a case for combining these two departments.

The author mentions a number of communities which have tried the experiment of combining police and fire departments but he does not prove that in any of these its public fire protection has been improved. In these cases an improved police service may have been obtained, but on that point we had rather leave the police experts to testify.

The idea of combining police and fire work is not new but it has never been taken up by very many cities. The frontispiece of the book shows the equipment and station of a department at Sunnyvale, California, one of the cities the text mentions as having "recently" undertaken the integration of a police and fire department. More recently, however, the fire and police department operations have been separated in Sunnyvale. The fire service consists of firemen who do not do police work but some policemen act as call firemen. This is a perfectly satisfactory arrangement but it is not what the author is trying to say it is. Managers of several other small California cities have separated fire and police operations after a trial combination. Hawthorne, Monterey Park and San Marino are examples.

## Unique Plant Protection Unit

This 4-wheel drive plant protection unit was recently delivered to the Curtiss-Wright Corporation assembly plant in Woodridge, New Jersey. Built by Sentry Safety Service, 80 Wall St., New York City, it has a 350 gpm pump; a 100-gallon tank; carries 100 lbs. of $CO_2$ which can be discharged through 50 ft. of hose; 100 lbs. of dry chemical in portable extinguishers; 150 ft. of 1½-in. hose; two 10-ft. lengths of assorted suction hose; and assorted rescue tools. The "Minitruc" is only 60 in. wide and 132 in. long and is priced at slightly more than $5,000.

# After the flood was over!

(All photos by *Woonsocket Call.*)

Flood waters caused debris to accumulate and by undermining wall provided good draft for the fire.

Fire fighters arriving for action. Each responding fire company was given a code number and was made part of the radio-controlled team under CD of Lincoln, R. I.

These two pictures were taken within 15 minutes.

A STRIKING example of fire loss which can occur after a flood is shown in the photos on this page. In Manville, Rhode Island, on September 12, this 1–5 story brick and wood frame, textile manufacturing and storage building burned with loss estimated at more than 7 million dollars. General alarm response brought fire companies from 4 cities and 15 surrounding towns, but since the fire started in the debris-laden area (*left*) strong draft condition on the open side of the building led to full involvement before fire fighting could be effected.

The structure was approximately 100 x 900 ft. and divided into five sections. The flood had undermined and washed out most of the west wall of the largest 5-story section. All floors here were exposed and most were sloping and filled with debris. While the entire plant property normally was 100 per cent sprinklered, the sprinkler protection in this section could not be restored because of the debris. Sprinkler protection was in service in other sections of the plant. Primary water supply was through 10-inch and 6-inch mains but the 10-inch public waterworks main had been broken by the flood and was replaced by a temporary new 8-inch main in service at the time of the fire. Secondary water supply by two 1500 gpm fire pumps was out of service because of flood damage.

The fire started shortly after 4 p.m. in a pile of debris on the third floor. It was possible that some highly combustible material was washed into this floor during the flood. Reports stated that the fire was small when discovered but although Cumberland Hill and Manville fire companies responded promptly in answer to telephone alarms, they found the entire unit heavily involved. Despite an immediate general alarm, the fire overwhelmed sprinkler protection throughout the plant and caused destruction of the entire plant.

Six hundred employees working in the plant were evacuated without accident. Fire companies from the Blackstone Valley League and the Northern Rhode Island League were in action and Woonsocket Hose Company No. 5 was one of the companies commended for skillful protection of exposures. The fire intensity was so great that, after five hours of fire fighting, Chief Sam Angell of the Cumberland Hill Fire Department was quoted as saying "There's nothing left to burn."

(*Below*) Heavy streams in action after walls had collapsed.

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*United Press Photos*

## Beating That "Vertigo" Feeling!

SKILL and confidence in the use of a pompier ladder meant at least an excellent rescue, $100 and a report of meritorious conduct for Fireman Gilbert W. O'Neill of Ladder 2, New York City Fire Department. He earned both awards on August 29 by climbing to the ninth floor of a hotel and saving a woman who was trying to escape fire in the building. Helping him were Acting Lieutenant M. P. Cox and Fireman L. W. Schemilk of the same ladder company.

When Ladder 2 responded to the alarm the woman was poised at a window of the ninth floor and appeared ready to jump. O'Neill went up the fully extended 85-ft. aerial, which just reached the eighth floor. Schemilk was behind him, carrying the pompier, while Cox went to the tenth floor of the building by elevator. Heavy smoke on the ninth floor prevented access to the woman's room, and no doubt she was reassured by the sight of the men climbing the ladder.

Hooking the ladder on the ninth floor O'Neill climbed to the window, then passed the ladder up to the tenth floor from where Cox climbed down to help in the rescue. Together they took the woman to safety through the smoke-filled room and corridor.

The New York *Journal-American* awarded O'Neill with the $100 prize, which was presented by Acting Fire Commissioner George F. Mand.

In discussing this feat, Gerry Daly's column in *The Chief*, (New York City civil service newspaper), mentions that pompier, or scaling, ladders were first used by the Department on April 7, 1884. A fireman named John Binns used a pompier to rescue a boy from the seventh floor of a building, while the aerial only reached the sixth floor.

Today, training with pompiers is a "must" in the Department's School of Instruction, and while they are seldom used in fire action, when they are featured in a rescue, the act generally wins a citation from the Board of Merit.

## County Wide Radio System

A $420,000 two-way Motorola radio system which provides contact with 10,000 volunteer firemen in Erie County, New York, was officially inaugurated on July 19. The system links radio communications between Buffalo, Lackawanna and Tonawanda fire departments and 96 volunteer fire companies in the 1,000 square mile area around Buffalo. Harold R. Becker is Fire Coordinator of Erie County.

While the Buffalo City Fire Department and county volunteer fire companies have separate radio networks, both networks are operated from the same control console in Buffalo's fire alarm headquarters. Radio relay equipment connects this console to a transmitter 15 miles away. County-wide coverage is obtained by means of a 200 ft. tower and 250 watt transmitter.

For radio purposes Erie County is divided into 10 areas according to township boundaries and population. Each area has a 60 watt base station for communication with two-way radios on fire trucks of volunteer companies. The county-wide base station normally communicates with the "area" base stations but can also contact individual volunteer fire companies. Each fire station of the volunteers features a "Quik-Call" siren which can be operated by the dispatcher at the area base station, who can press a separate button for each siren or can operate a "group" button which will activate all fire station sirens in the area. At present, 103 pieces of fire apparatus operated by volunteers are equipped with two-way radio.

Normal fire fighting activities are coordinated from area base stations which are attended 24 hours a day. For extreme emergencies coordination is directed from the Buffalo headquarters or from the county-wide transmitter. Monitor receivers in volunteer firemen's homes also permit selective dispatching and verbal communication with special groups of fire fighters for minor emergencies. Two other 250-watt base stations are planned for control of highway maintenance vehicles and sheriff's cars throughout Erie County. Both of these will be in contact with the central control station in Buffalo.

## Aircraft Fire Fighting and Rescue Experience

SOME interesting statistics are contained in Aviation Bulletin No. 135 published by the NFPA and based on a report submitted to the Committee on Aviation and Airport Fire Protection. This 15-page, 8½ x 11 in. booklet describes the aircraft fire fighting and rescue experience of the United States Air Force for the fiscal year 1953, together with comparative data for 1951 and 1952. It also describes ten typical crash fire incidents.

According to this Bulletin the number of incidents involving crash fire fighting and rescue activities during 1953 exceeded the incidents of the other two years, with 41.6 percent resulting in fires. During the overall three-year period, 488 persons were rescued by fire fighters while a total of 14,236 aircraft occupants were involved in the 4,743 accidents reported.

Eighty percent of the incidents reported occurred within landing areas of Air Force bases. During 1953 there were 1,154 accidents in continental United States, 519 of which involved actual fire. Of the total U. S. accidents reported, 855 occurred generally in the confines of the actual landing area and immediate vicinity, while the remaining 299 were "off-base." Overseas crash fire experience of the Air Force is also tabulated.

Copies of this bulletin may be obtained from the NFPA Executive Office, 60 Batterymarch Street, Boston 10, Massachusetts. Price is $1.50 per copy.

Also just-published are six "Special Aircraft Accident Bulletins, Series 1955," which describe various crash fires and fire fighting incidents. They are available from NFPA at 25 cents each and include descriptions of: (No. 1) a Convair Crash at Midway Airport, Chicago, Illinois; (No. 2) DC-6 pilot qualification accident, MacArthur Airport, near Sayville, New York; (No. 3) rooftop helicopter crash, New York City, New York; (No. 4) C-118 crash and delayed fire, Keflavik Airport, Iceland; (No. 5) Lodestar crash fire, St. Petersburg, Florida; and (No. 6) a helicopter crash fire at Hurst, Texas.

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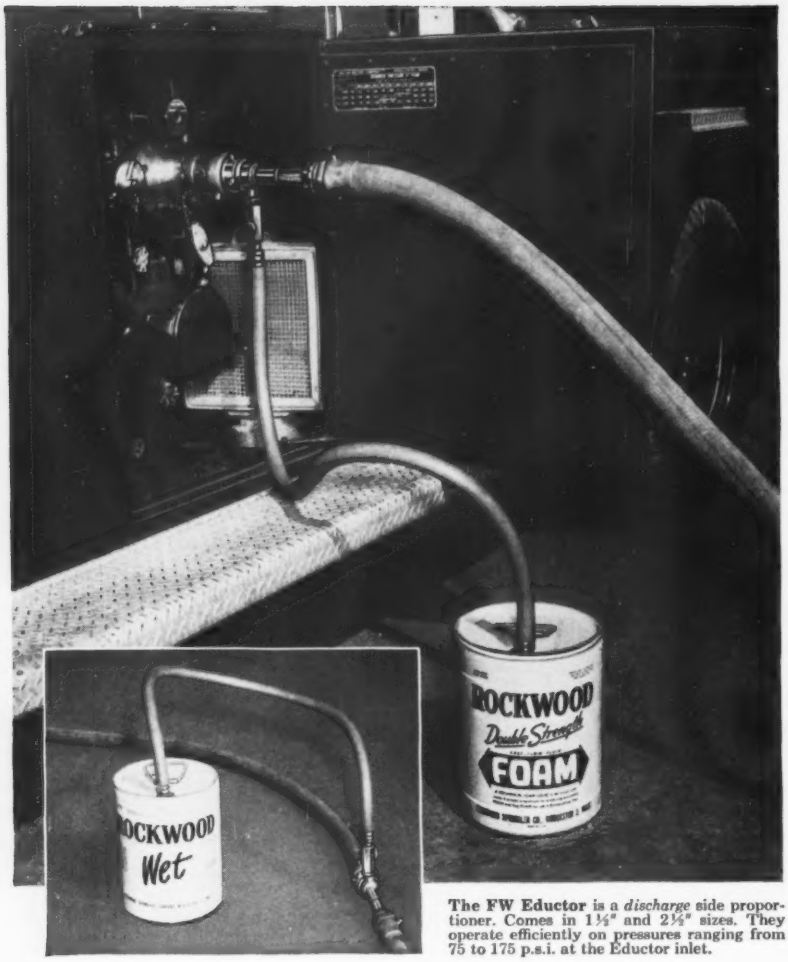


**The FW Eductor** is a *discharge* side proportioner. Comes in 1½" and 2½" sizes. They operate efficiently on pressures ranging from 75 to 175 p.s.i. at the Eductor inlet.

**FFF Nozzle** comes with Foam screen and solid Foam stream shaper.

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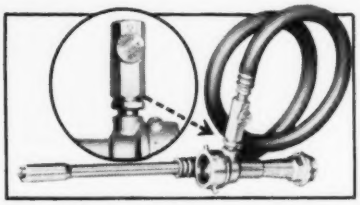

**The Variable FW Metering-Check Valve** on the Rockwood Eductor is highly versatile, and is furnished with each FW Eductor. It incorporates both the Metering Valve and Ball Check Valve in one unit, and meters material into the hose line in any proportion from 1% through 6%.

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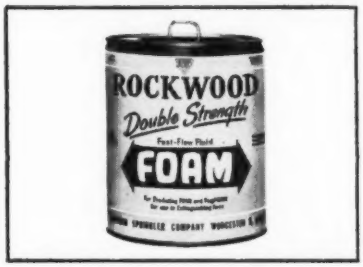
## Protect against flammable liquid fire due to tank truck accidents

With more traffic on congested highways, more filling stations, more and more gasoline tank trucks in daily service, *your* city is in greater danger of a flammable fuel fire than it has ever been before. A sudden crash of a tank truck passing through your city streets tomorrow could confront you with a difficult-to-control flammable liquid fire.

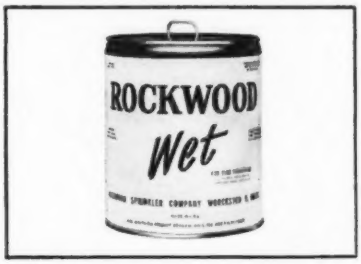
The use of Rockwood FW Eductor reduces the danger of disastrous losses due to such a fast-spreading fire. Developed for operation with Rockwood's FFF nozzle and SG-60 nozzle with FF extension unit, the FW Eductor introduces Rockwood regular FOAM, Double-Strength FOAM or WET (1% or 2%) into the hose line, quickly controlling and extinguishing flammable liquid and other fires.

Rockwood FW Eductor is the simplest form of proportioning you can buy. Ideal for municipal fire departments, oil refineries and industrial plants, it can be attached between discharge gate of a fire truck and hose line, or between hydrant and hose line, or between two lengths of hose.

Be prepared. Put this great fire fighter to work for you. Specify Rockwood FW Eductor when you order a fire truck.




**Rockwood Double-Strength Foam Liquid,** 3 parts mixed with 97 parts water, forms a solid FOAM blanket that quickly re-seals itself. Available in 5-gallon or 50-gallon drums.




**Rockwood WET,** 1 part mixed with 99 parts water, increases penetration and extinguishing action of water. Excellent for deep seated fires or where water is scarce. Can be used in proportions of 1% or 2% by volume for Class A and B fires. Available in 5-gallon cans or 50-gallon drums.

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**PORTABLE FIRE PROTECTION DIVISION • 1005 Harlow Street, Worcester 5, Mass.**

## Occupancy Fire Records

LISTED below are sixteen of the occupancy fire records which have been published by the NFPA Fire Record Department. Each of these 8½ by 11 in. illustrated pamphlets presents detailed analyses of fires which occurred in specific types of occupancies, together with a breakdown of the causes of fire and factors which contributed to fire spread.

The complete set is a useful addition to any fire station library. Fire fighters who make inspections of industrial properties will find these bulletins particularly helpful since they detail the common violations of fire protection and fire safety which led to fire in a particular occupancy. The information also would be helpful to fire department members taking promotional examinations.

To encourage the use of these fire records special discount prices are now being granted. Single copies of any of the fire records are available at 50 cents each.

*The first ten* (FR 54–1 through FR 55–1) may be obtained as a complete set for only **$4.00**. (List price $5.00.)

*The second six* fire records (FR 55–2 through FR 55–7) may be obtained as a complete set for only **$2.50**. (List price $3.00.)

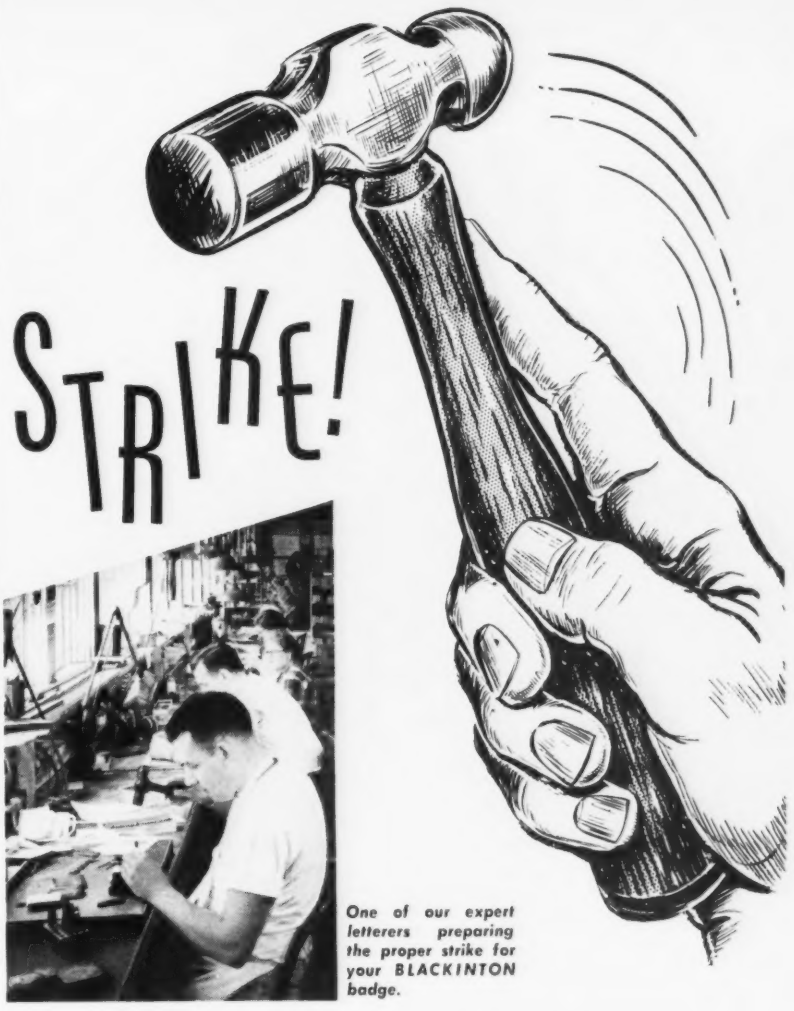
*All sixteen fire records* (FR 54–1 through FR 55–7) are available as a complete set for only **$6.00**. (List price $8.00.)

FR 54–1. Garages — 8 pages
FR 54–2. Supermarkets — 8 pages
FR 54–3. Foundries — 12 pages
FR 54–4. Oil Piers — 12 pages
FR 54–5. Grocery Warehouses—12 pages
FR 54–6. Farm Property — 12 pages
FR 54–7. Department Stores — 8 pages
FR 54–8. College Dormitories, Fraternities and Sororities — 8 pages
FR 54–9. Food Canneries — 12 pages

• • • • • • • • •

FR 55–1. Electric Generating Plants — 12 pages
FR 55–2. Truck Terminals — 8 pages
FR 55–3. Motor Boats — 12 pages
FR 55–4. Printing Plants — 12 pages
FR 55–5. Restaurants — 12 pages
FR 55–6. Oil Extraction Plants — 12 pages
FR 55–7. Cotton Warehouses — 8 pages

To order the sets you want check this list and mail it to the NFPA Publications Department, 60 Batterymarch Street, Boston 10, Massachusetts.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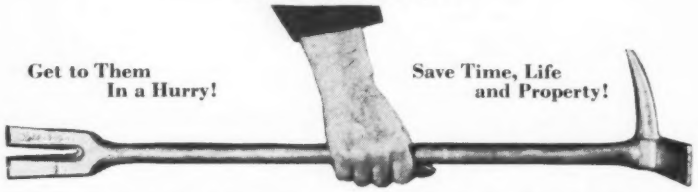
The Multi-Purpose "HALLIGAN TOOL"

1 Piece of No. 4140 Steel

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*The 'New Look'* "HALLIGAN HOOK"

Triple Insulation — Rubber, Wood, Fibre Glass
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With Amazing Performance

HALE Portable Pumping Units

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| FZZ | 60<br>100 | 90<br>70 |
| FZ | 50<br>300 | 60<br>10 |
| HPZF* | 11<br>28 | 200<br>150 |

*A New Unit

These 3 pumping "Workhorses" provide amazing volumes and pressures for efficiently fighting a great variety of fires. All three units are conveniently portable by two men; can be easily mounted or carried on any type of apparatus for fighting fires while in motion from booster tank; often used to pump from inaccessible water source into major pumper, or to fight fires direct.

*Write for Circulars on Models FZZ, FZ and new HPZF—at least one of which is sure to meet your fire fighting requirements. Ask for demonstration; no obligation.*

HALE FIRE PUMP CO.
Conshohocken, Pa.

*Fire Pumps in All Standard Capacities*

## Milwaukee Training

NEW fire fighters serving as "probationers" in the Milwaukee, Wisconsin, Fire Department are given an informative booklet explaining the rules and organization of the Department. Prepared by Deputy Chief James E. Moher, the 8½ by 11-in. booklet is titled "I'm a Fireman?" and gives concise description of performance, dress and discipline expected of each member of the Department.

Each probationer is required to take 150 hours of training in a 30-day period. After this, he attends training sessions for a half-day, twice a month, until he completes the 1-year probationary period. When the Department responds to multiple alarms probationers are excused from the training to go into action with their respective companies.

In addition to Chief Edward E. Wischer, personnel in the Department includes an assistant chief, 5 deputy chiefs, 24 battalion chiefs, 59 captains, 1 motor vehicle operator instructor, 5 fire boat pilots, 6 fire boat engineers, 102 lieutenants, 90 motor pump operators, 4 fire prevention officers, and 668 fire fighters.

## Contest Entry Blanks

ENTRY blanks for the Fire Prevention Week Contest for 1955 are now ready. The August issue of FIREMEN contained an entry blank for municipal fire departments, while industrial fire brigades and fire departments serving government installations can obtain their special entry blanks from the Secretary of the Fire Prevention and Clean-Up Campaign Committee at the NFPA Executive Office, 60 Batterymarch Street, Boston 10, Massachusetts. All entries must be sent to the Secretary before November 30, 1955.

Last year the total number of entries for the United States and Canada was 1,168, an increase over the 1953 total. However, entries from U. S. municipal fire departments (339) were far less than Canada's (791) and it is hoped that the 1955 Contest will bring an increase in U. S. entries in this important division.

(*For a review of the point-scoring features of winning entries see the February, 1955,* FIREMEN — *Ed.*)

# FULTON BAG & COTTON MILLS

## protects its property *Automatically*.... gets better FIRE and BURGLARY PROTECTION and

*"ADT's Automatic Protection Service is an excellent safeguard for our property. We estimate that at Minneapolis our savings over other types of protection average $6,500 a year."*

C. R. Elsas President

Textile bags are a vital commodity in Minneapolis, center of the country's grain and milling industry. Fulton Bag & Cotton Mills, of Atlanta, Ga., maintains the modern Minneapolis branch plant, illustrated above, to supply its products to the Twin Cities.

Because of the importance of uninterrupted production, and to forestall the far-reaching effects of a serious fire, burglary or other emergency, the Minneapolis plant is safeguarded by a combination of ADT Automatic Protection Services, consisting of Central Station Sprinkler Supervisory and Waterflow Alarm, Burglar Alarm, and Heating and Industrial Process Supervisory Services.

Mr. Elsas' statement stressing the value of this protection is typical of the comments of executives from coast to coast, who know that ADT Automatic Services give more security than can be obtained by any other method . . . and at less expense.

Whether your premises are new or old, sprinklered or unsprinklered, the appropriate ADT Fire Alarm Service will detect fire and notify the fire department *automatically*. ADT Burglar Alarm Service will *automatically* summon police when burglars attack. ADT Heating and Industrial Process Supervision will *automatically* detect and report other abnormal conditions.

ADT safeguards, electrically, many billions of dollars' worth of tangible and intangible assets owned by 58,000 subscribers in 1,600 communities. An ADT specialist will show you how combinations of automatic services can protect your property.

Call our Sales Department if we are listed in your phone book; or write to our Executive Offices.

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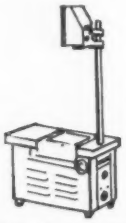
A NATIONWIDE ORGANIZATION
Executive Offices
155 Sixth Avenue, New York 13, N. Y.

## Useful Training Device

FIRE service training instructors often have the problem of obtaining good illustrations and using them practically to supplement lectures. To fill this need the Robert J. Brady Company, 3255 M Street, Washington 7, D.C., has developed a series of colorfully illustrated transparencies and overlays which may be projected to a screen or painted wall as an instructor proceeds with his lesson plan.

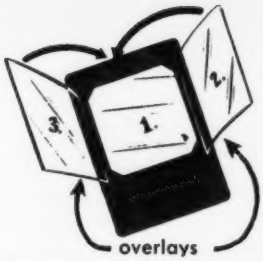
These transparencies are made of clear, heavy plastic having certain illustrations pertaining to basic fire fighting instruction. A special projector, called the "Visualcast" projects and magnifies the illustration on the wall or screen. The instructor can point to or mark any portion of the illustration during his lecture. Flaps or overlays are fitted on each transparency to provide a step-by-step sequence of illustration. The projector operates from any standard electrical outlet and may be focussed from as near as five or six feet from the screen.



Projector used for magnifying overlays provides bright illumination and allows the instructor to face and observe his class as he stresses certain points of his lecture.

The complete set of 118 transparencies covers many fundamental fire fighting subjects, including tools and appliances; fire extinguishers; knots; forcible entry; handling hose and ladders; salvage; fire fighting theory; and tactics. There is also a series of 47 slides covering pump operation, and more overlays are being developed for instruction in arson detection, the indirect method of fog application, and fire prevention.

At present one of the projectors




Typical transparency. Main diagram would be on plastic sheet 1, while 2 and 3 contain additional illustrations to provide step-by-step sequence.

and the complete set of transparencies are being used by Chief James C. Rogers of the Nassau County, New York, fire training school. Similar sets are also being used by the U.S. Air Force and other branches of the armed services.

Prices and further information may be obtained by writing to the manufacturer.

### "The White Sheet"

THE Fire Prevention Bureau of the Los Angeles, California, Fire Department publishes an informative bulletin each month for members of the Department. Called "The White Sheet," this mimeographed 2-page, 8½ by 13 in. paper provides some useful digests on a variety of subjects, which are important to fire fighters for general knowledge or for promotional examinations.

Each issue carries a box on "Current Reading," listing 15 or 20 articles in fire service, insurance or other technical publications. Other sections are titled "Fire Digest," "Chemical Capsules," "Fire Facts," and a humorous column called "Coffee Break." On the whole the reader has a good, quickly read selection of pertinent information, and many other fire departments might provide good service to their members by publishing similar bulletins.

One interesting news item in the August issue of "The White Sheet" concerns a court penalty to a teacher whose exploding oil stove led to destruction by fire of 420 acres of watershed. A Pasadena court fined him $100 and ordered him to give twenty public talks on fire safety. The lectures are to be given whenever and wherever U. S. Forest Service officials specify.

MIDWESTERN

Safety Clothing for FIREMEN

The Original STRIPED SAFETY COAT

The striped safety coat for firemen is an *original* MIDWESTERN development . . . featuring highly visible yellow stripes which are *rubberized as part of the material* . . . not painted, glued or sewed on!

Service records prove that Midwestern Striped Safety Coats withstand years of rugged duty . . . offer high safety visibility during the entire life of the garment. There are many imitations but *no substitute* for the workmanship, built-in comfort and longer wear you receive by specifying MIDWESTERN.

MIDWESTERN LEADS IN QUALITY

Superior quality, advanced design, exclusive fabric materials and safety features have made Midwestern a leader in the field of firemen's safety clothing. For complete information on our full line, see your Midwestern dealer. A letter to the factory will also bring you literature and material samples for your inspection.

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# INDIAN

## FIRE PUMPS

Don't get caught *"flat footed"* without an ample supply of the clear water back-pack extinguishers which are "the choice for quality the world over."

For many years **INDIAN FIRE PUMPS** have been unsurpassed in design, performance and construction. There is nothing else "just as good." Our company was established in 1888.

To fight fires faster, easier, more efficiently get the equipment that is without equal—get INDIAN FIRE PUMPS! "They are worth their weight in gold."

**"Choice for Quality the World Over."**

**The INDIAN is available in the lever type, known as our No. 80 INDIAN.**

"We have used **SMITH INDIAN FIRE PUMPS** for several years and now need two more which please ship at once. We cannot afford to be without **INDIANS** and consider them to be the handiest piece of fire fighting equipment on our truck."

F. H. SANDERS, Mayor
*Aliceville, Alabama*

Fire Truck unit built by Howe Fire Apparatus Co. of Anderson, Ind. and recently delivered to Library Fire Dept.; Library, Pa. Note **INDIAN FIRE PUMPS** mounted in place. More new trucks are coming through with **INDIANS** as specified equipment.

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SAVE MONEY...

Bi-Lateral

FLEXIBLE
...FOLDS FLAT FASTER!
...STAYS SAFE LONGER!

WHEN YOU BUY WITH YOUR CONSCIENCE YOU'LL

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Cheap hose is expensive in the long run—in lives as well as money! Bi-Lateral has been famous for quality since 1907—and we don't intend to endanger that reputation—or lives—by making "cheaper" hose to meet a cheaper price.

**Cheap hose must be replaced in seven years—Bi-Lateral will give you twenty years of safe service.**

We believe that safety and long run economy are more important than price alone in the purchase of fire hose. That's why we say, "when you buy with your conscience, you'll Bi-Lateral!"

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BI-LATERAL was *first* to construct hose with the bi-lateral non-creasing feature for longer life, *lower cost* in the long run and true safety. Folds flatter, handles more easily!

BI-LATERAL was *first* to change the pin-lugs to rocker lugs for safer, easier-handling couplings, lower-cost hose coupling maintenance.

BI-LATERAL was *first* to offer a real detergent, BI-KLEEN—made especially for fire-hose cleaning exclusively for Bi-Lateral by the Essentials Chemical Co. Oil and dirt rot hose—*Bi-Kleen* is *safe, non-toxic,* keeps hose "inspection-white," keeps it cleaner, safer . . . good for firehouse and apparatus, too!

AND BI-LATERAL was *first* to furnish free fire hose record cards to fire departments. They are *still* available—send for a supply!

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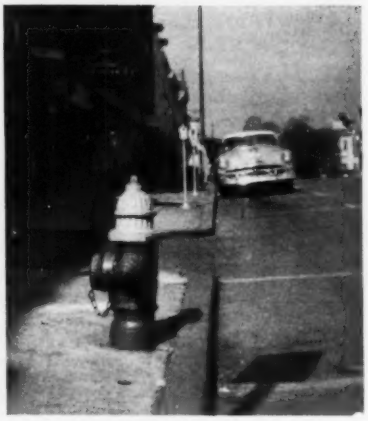

### Got a Goose-Necked Suction Hose?

A READER has sent this photo of a hydrant in Waynesboro, Pennsylvania, together with the comment that the hydrant has been so located for a number of years and there seems to be small chance of getting it turned around. We don't know how a pump operator will get to use this "steamer" connection, but unfortunately there are other communities which have had similar situations. (See August, 1952, FIREMEN.) One U.S. Veterans' Hospital featured almost all of its hydrants placed with the "steamer" outlet facing away from the driveways.

Since such errors may occur through ignorance or poor planning by the Water Department, some communities give the fire chief the authority to locate all fire hydrants for accessibility, for maximum protection of property, and for convenience in making hose layouts.

### Eye-Catcher

The Art Screen Guild Process Company drew and donated this colorful poster for fire prevention activities of the Richmond, Virginia, Fire Department. Measuring 22 by 28 inches, the poster is being displayed on buses and in store windows of the city. The brilliant red background is achieved by luminous paint.

## *What Is a*
# *"BOILOVER"?*

AS REPORTED on pages 8 and 9 of this issue, one of the serious problems during the recent refinery fire at Whiting, Indiana, was a "boilover" in a crude oil tank.

Chapter 12 of the NFPA Handbook of Fire Protection mentions that this reaction generally occurs when large tanks of crude oil and viscous oils which contain water have been burning for some hours. Gasoline and other refined petroleum products, and flammable liquid solvents are not subject to boilover, which occurs when lighter fractions of crude oil burn off at the surface, leaving heavy hot fractions which sink, carrying heat down. When sufficient heat reaches the bottom of the tank where there is usually some water, the water boils and forces the oil out of the tank violently.

A fire protection manual published for employees of the Pan American Refinery Corp., Texas City, Texas, presents some further pertinent information on boilovers.

According to this manual, crude oil, after burning for considerable time, develops a "heat wave" that travels downward at a rate of 15 to 50 inches per hour. Temperature of the oil in this heat wave may reach 500 to 600 degrees Fahrenheit. When the wave reaches the bottom water, or if sufficient water is entrained in the bottom oil, a violent boilover will result. Burning oil first erupts and then falls, sometimes spreading beyond the fire walls of the tank. The column of flame will be 300 to 400 ft. in diameter at the base, spreading wider as it reaches 1,000 ft. or more.

The beginning of a boilover is indicated usually by both the increase in height and increase in brightness of the flames followed by actual eruption of the boiling oil.

The manual defines a "slopover" as simply resulting from expansion or frothing of the heated liquid.

Fire fighting recommendations in the publication state that when such tanks are involved by fire, the shells should be tested with a water stream to determine the downward progress of the heat wave. Some authorities suggest that a heat-detecting paint, applied to the tank shell in a vertical stripe, will also indicate the progress of the heat wave.

If extinguishment has failed by the time the heat wave has reached a point 5 ft. above a bottom water level, all personnel should be evacuated immediately from the area. Fire fighting personnel should be informed that successive boilovers may occur from burning a tank.

Municipal fire departments which respond to fire alarms for properties having tank installations containing crude oil, and other liquids subject to boilover, should check with plant officials to determine the products in each tank and to obtain all possible information on the "bottom water" which plant personnel record in daily inventories.

*New - Exciting - Different!*

**FIRE ALARM**

**PAJAMAS, NIGHT SHIRT and HAT**
**In Red Cotton Flannelette**

The new sensation for real and would-be firemen! The most unusual, soft, roomy comfortable night clothes you could want! Made expressly for you, by Varsity, Inc., of beautiful red cotton flannelette with clever, small pattern of helmets, hatchets and fire trucks in white. They ring the bell!

**PAJAMAS** — Sizes A, B, C, D. $4.95

**NIGHT SHIRT** — Sizes A, B, C, D. $4.95
*(Small size also fits women)*

**HAT** — To go with above. No sizes. $1.25

*Add Postage — Pajamas or Night Shirt 35c, Hat 10c*

**ORDER BY MAIL - SEND COUPON**

James Campion, Inc. Date.....
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Please mail the following Fire Alarm Clothes at once. Check enclosed for $.....

..... PAJAMAS. Sizes.....
..... NIGHT SHIRTS. Sizes.....
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**SENSIBLE LUG COUPLINGS**

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The improved Powhatan "Sensible-Lug Couplings" are precision tooled and manufactured of only the best high-grade materials. They set a standard that is "tops" in this specialized field of fire-fighting equipment. The curved surfaces of this modern coupling enable the hose to glide easily over all obstructions, thus preventing snagging, an important safety and economical feature appreciated by those who know.

SPECIFY "SENSIBLE" LUG COUPLINGS ON YOUR NEXT HOSE ORDER

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# SINCE 1836


## Dates to Remember

**Arizona:** The Arizona State Fire School will be held at Phoenix Technical School, October 20–22. Write to Director Jake Siken, Battalion Chief, Phoenix Fire Department.

**North Carolina:** The 3rd Annual Pump School will be held at the Firemen's School Building and Training Grounds in Charlotte, October 17–19. The course is in three sections and students participate for three years to receive a diploma from the North Carolina State Firemen's Association. Further information may be obtained from Director Charles L. Burkett, North Carolina Fire College and Pump School, Charlotte.

**Pennsylvania:** The Pennsylvania State Fire School has these courses scheduled for October: Advanced Fire Fighting-Annual Fire School Round-Up; Fire Service Instruction Course; Fire Apparatus Operation and Maintenance.

The 10th annual fire training school will be sponsored by the Berks County Firemen's Association at Wyomissing, October 13–16. Write to Secretary Adam E. Baer, Jr., 373 Sunset Road, West Reading, Pennsylvania for further information.

## New Member Departments

***NFPA Welcomes:***

The following fire chiefs and fire departments who recently enrolled in the Association:

**California:** Costa Mesa Fire Department, Costa Mesa; Orland Volunteer Fire Department, Orland.

**Florida:** Chief John H. Sandhammer, Islamorada Fire Department, Islamorada.

**Massachusetts:** Nantucket Fire Department, Nantucket.

**Newfoundland:** Gander Fire Department, Gander; Chief Maurice J. Murray, Placentia Volunteer Fire Brigade, Town Side, Placentia.

**New Mexico:** Chief George E. Daniels, Roswell.

**New York:** Elmira Heights Fire Department, Elmira Heights; Queensbury Central Volunteer Fire Company, Inc., Glens Falls.

**Ohio:** Chief Arthur T. Reddy, Whitehall Fire Department, Columbus 13; North Randall Fire Department, North Randall 28.

**Oregon:** Odell Rural Fire Protection District, Odell; Portland Fire Department, Portland.

**Tennessee:** Lawrenceburg Fire Department, Lawrenceburg.

**Texas:** Southside Place Volunteer Fire Department, Houston 5.

**Virginia:** Bristol Virginia Fire Department, Bristol; Colonial Heights Volunteer Fire Department, Colonial Heights.

## Regional Meeting in New Orleans

THE Jung Hotel in New Orleans, Louisiana, will be headquarters for the NFPA Regional Meeting November 28–30. Firemen in uniform may attend any of the open sessions without being charged the $3 registration fee. There will be a number of addresses and forums which will be of particular interest to fire department members in the region. Louisiana State Fire Marshal Sidney S. Bowman is Chairman of the Sponsoring Committee.

For fire fighters, an NFPA regional meeting provides good opportunity to hear the opinions of some of the top leaders in the fire service. There is also opportunity to participate in the important question and answer periods which follow the discussions of timely fire protection topics. (See October NFPA *Fire News* for detailed program.)

The 1st general session on Monday, November 28, will feature general discussion of NFPA technical standards, organization and activities, as well as an address on fire protection engineering. In the afternoon four simultaneous sessions will feature discussions of fire safety in hospitals, nursing homes, schools and places of assembly; flammable liquids fire problems; safeguarding historic buildings and museums; and air conditioning.

Municipal fire protection and prevention and civil defense problems will be covered in the Tuesday morning general sessions, while simultaneous sessions in the afternoon will cover gases; life safety in homes; and storage and handling of combustible commodities.

Industrial fire problems; automatic sprinklers; extinguishers and special extinguishing systems; and fire problems of lumber storage will be discussed during the Wednesday morning general session. Group conferences in the afternoon will cover electrical fire safety and the National Electrical Code; dust explosion hazards and combustible metals; chemicals and explosives; and garage fire problems.

For hotel reservations write to the Jung Hotel, New Orleans, state that you will be attending the NFPA Meeting, and mentions your expected dates and times of arrival and departure from the meeting.


"It All Comes Out in the Wash!"

NEW *Roto-Jet* FIRE HOSE WASHER

*Automatically*

WASHES

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RINSES

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DRAINS

- **HOSE IS SELF-PROPELLED** — As it passes through wringer rolls a slight pressure with the lever handle pulls hose through under its own power.
- **UNIFORM WASHING** — Is assured at a rate of about 20 ft. per minute.
- **DRAINS HOSE LININGS** — "Squeegee" action of neoprene wringer rolls eliminate necessity of hanging hose in towers or "walking" it before drying.
- **ONE-MAN OPERATION** — Complete sections are placed in the tank and only one man is required at the discharge end to re-roll the hose.
- **CLEANS WITH OR WITHOUT DETERGENTS** — Hose is soaked in immersion tank filled with lukewarm or cold water, as preferred. Soaps or detergents may be added if needed.

*Better Hose Care-with* CIRCUL-AIR

HOSE CONDITIONING EQUIPMENT

WASHERS • DRYERS • TURN-TABLES • STORAGE RACKS

HOSE LOADING TABLES

By use of the turn-tables the wet hose is kept off the floor; there is little if any of the usual mess incident to the practice of washing hose on the floor. These turn-tables are equally valuable for re-loading the hose truck — several lengths may be stacked on each — or for loading the hose dryer.

WRITE FOR COMPLETE DETAILS

If you are planning to build or remodel, send for our new brochure "Fire Station Design."

FIRE HOSE DRYER

The patented, electrically operated Circul-Air hose dryer circulates prewarmed fresh air through loosely coiled hose at the rate of 5 to 6 air changes per minute. Saves floor space, hard work and lengthens hose life. No other drying method is so fast — so economical — so easy to use. Circul-Air is the preferred drying method in over 3,000 leading Fire Departments.

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**This is it! "THE KING"**

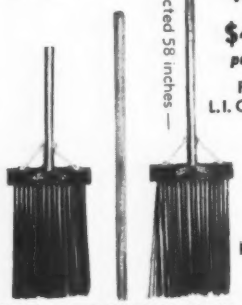
**FIRE FIGHTING BROOM**

**This is a piece of equipment, not just another broom.**

**Send check or money order in the amount of $3.50 for sample, and convince yourself. You will never buy any other broom. It has many uses. Money refunded within ten days if not satisfied with sample.**

**Mr. Official:**
Save wear and tear on expensive, heavy equipment! Put "THE KING" fire fighting broom on all cars and fire trucks! It's inexpensive, easy to carry and built for quick attack on grass and brush fires.

— actual length when connected 58 inches —



**Steel Bristles Cannot Burn!**

**Special Price Cities, Towns, or Villages**

**$40.00** *per dozen*

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**PAT. PENDING**

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# Some New Items of Fire Equipment

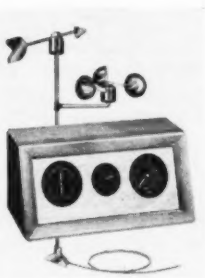
### New "Mystery" Nozzles

Elkhart Brass Company Inc., of Elkhart, Indiana, has announced its new "ST" Series of Select-O-Stream Mystery Nozzles. The new models feature a detachable shut-off valve by which the nozzle tip can be removed while the line is still charged. As the photo shows, the valve also permits addition of extra hose line without shutting off water at pumper or hydrant. Increased capacity is obtained in the new nozzle by a larger waterway. At 100 lbs. nozzle pressure and 30 degrees fog setting, the 1½-in. nozzle discharges 125 GPM and the 2½-in. nozzle discharges 275 GPM. The nozzle tips may be purchased separate or with the new detachable shut-off valve. For further information write to the manufacturer.

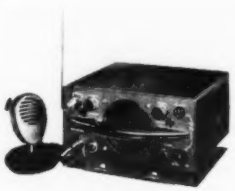
### "Float-Dock"

Fol-Da-Tank Company of Rock Island, Illinois, is manufacturing this new device to make drafting easier from static water supply. Called the "Float-Dock" Dual Use Strainer, it consists of two units . . . a floatable tank and a detachable strainer, hinged to the tank. It is designed to eliminate whirlpool action and the manufacturer claims that it permits drafting from a 5-in. depth, or from deep water. It features a brass hose coupling usually furnished with 2½-, 4- and 4½-in. National Standard thread fittings, but also available with other threads and dimensions. Further information and prices are available from the manufacturer.

### Wind-O-Meter



Many fire departments may be interested in this new weather instrument produced by Aircraft Components, Inc., Benton Harbor 52, Michigan. It measures wind direction for 360 degrees and temperatures from 40 degrees below zero to 120 degrees F., as well as wind speeds up to 100 miles an hour. The outside transmitter unit can be located several hundred feet away. Descriptive literature is available from the manufacturer.



### Two-Way Radio

A compact 2-way radio which operates from 6, 12, 24 volt direct current or 115 alternating current sources, without a separate power supply, is being produced by the Industrial Radio Corporation, 28 N. Parkside Ave., Chicago 44, Illinois. Called "Model J Pak-Fones," the unit measures only 10 x 9 x 5 inches and may be used in vehicles, mobile equipment or as a portable unit. The units operate in 25 to 50 MC and 145 to 174 MC bands and carry FCC and Civil Defense designations. Write to the manufacturer for further information.

### Calendars, Caps and Ash Trays

The Osborne Company of Cincinnati 12, Ohio, is now producing new items bearing "Sparky" the NFPA Fire Prevention Symbol. These include a children's cap, a safety ash tray and the calendar which has the approval of the National Fire Protection Association. (See FIREMEN for May, 1955.) The items can be used by fire departments as gifts to fire station visitors. Chiefs and other officials who desire further information may write to the Osborne Company, Cincinnati 12, Ohio.

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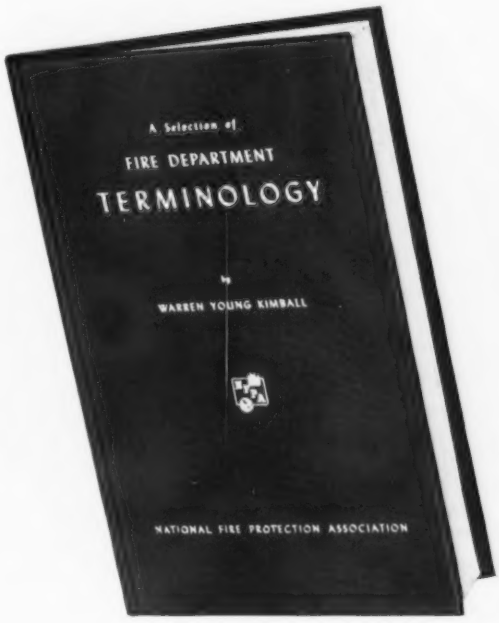


Many fire departments can make good use of this unusual collection of words and terms peculiar to the fire service.

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## *Sample Terms*

**Cellar Fire.** Fire involving portions of a structure below grade and considered especially dangerous and difficult to fight because of confined heat and smoke, oxygen deficiency, tendency of fire to move upward through unprotected openings, physical punishment involved in moving downward against fire, and difficulty of achieving ventilation. Self-contained breathing apparatus should be used for personnel protection at basement or cellar fires.

**Dog Robber.** Aide to captain on detail or investigation.

**Fire Tower.** A self-contained structural stair tower used as a fire escape for building occupants and as a means of access for fighting structural fires. Frequently containing a fire department standpipe riser. Also, less frequently, a fire department training tower. A fire department communications center. Occasionally, a fire department water tower truck or an aerial ladder employed as a water tower.

**Out of Service.** A fire fighting unit reports out of service when due to accident, mechanical failure, or any other cause it is not available to answer its assigned calls. Occasionally, a special duty unit may be out of service because fully engaged at a fire or emergency or a company may be out of service while performing some special service or detail. Usually, an effort is made to keep the company in service during drills, tests, etc., if it is within reasonable running distance of its home district.

**Phase 3, or Third Phase.** Dangerous smoldering period of an interior fire when oxygen content of atmosphere has been depleted below 15% presenting likelihood of back draft or explosion of confined heated smoke and gases if fire breaks through to outside or if building is carelessly ventilated.

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